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Installation and Operating Instructions

NOTE: Read the entire instruction manual before starting the installation.

SAFETY CONSIDERATIONS

Installation and service of heating and air conditioning equipment can be hazardous due to system pressure and gas and electrical components. Only trained and qualified personnel should install, repair, or service heating and air conditioning equipment.

Untrained personnel can perform basic maintenance functions such as cleaning and replacing air filters. All other operations must be performed by trained service personnel. When working on heating and air conditioning equipment, observe precautions in the literature, tags, and labels attached to or shipped with the unit and other safety precautions that may apply.

Follow all safety codes. Wear safety glasses and work gloves. Use quenching cloth for brazing operations. Have fire extinguisher available. Read these instructions thoroughly and follow all warning or cautions attached to the unit. Consult local building codes and National Electrical Code (NEC) for special requirements.

It is important to recognize safety information. This is the safety-alert symbol . When you see this symbol on the unit and in instructions or manuals, be alert to the potential for personal injury.

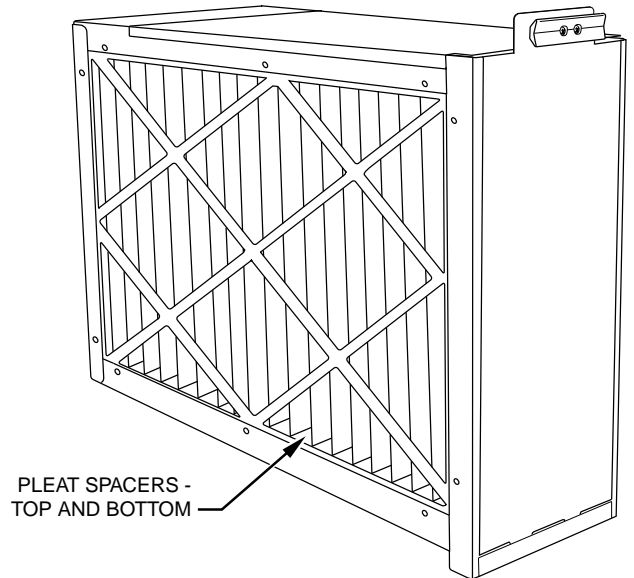
Understand the signal words DANGER, WARNING, and CAUTION. These words are used with the safety-alert symbol. DANGER identifies the most serious hazards which **will** result in severe personal injury or death. WARNING signifies hazards which **could** result in personal injury or death. CAUTION is used to identify unsafe practices which **would** result in minor personal injury or product and property damage.

INTRODUCTION

The Model MACA Mechanical Air Cleaner is designed for installation in the return-air duct of any forced-air heating and/or cooling system. The model MACA Mechanical Air Cleaners are available in three sizes, 012, 014, and 020.

The Model MACA is a mechanical air cleaner incorporating special pleated filter media designed to remove dirt, dust, pollen and other microscopic particles from the air passing through it. The pleats provide an exceptionally large filtering face area in a very compact space which allows maximum dirt holding capacities.

When applying the MACA, attention must be given to duct and system design because these components affect system static pressure. To maintain the proper efficiency and reliable operation of the MACA Mechanical Air Cleaner and your HVAC equipment, this filter should only be applied to properly designed duct systems and properly sized HVAC equipment. The MACA has a higher static pressure drop than the typical factory supplied furnace and/or fan coil filter (See Table 1).



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Fig. 1—Model MACA Mechanical Air Cleaner

INSTALLATION

Step 1—Install Air Cleaner Cabinet in Return-air System

CAUTION

Turn OFF the electrical supply to furnace or air handler before beginning installation.

1. Remove and discard existing furnace or air handler filter(s).
2. Referring to Fig. 2 and Fig. 3 for air cleaner dimensions and typical installations, determine best installation location of air cleaner.

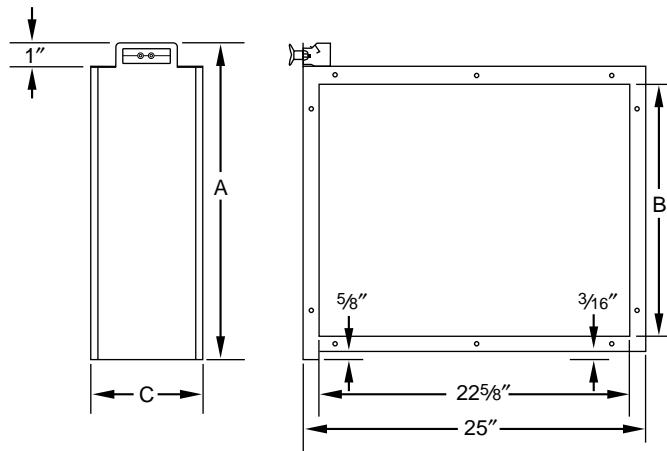
Table 1—Typical Pressure Drop

SIZE	FACTORY SUPPLIED FURNACE/FAN COIL FILTER	012		014		020	
		Typical	Max	Typical	Max	Typical	Max
Airflow (cfm)		Resistance (In. wc)					
600	0.015	0.05	0.06	0.03	0.04	0.04	0.04
800	0.02	0.07	0.08	0.05	0.06	0.05	0.05
1000	0.03	0.10	0.12	0.07	0.11	0.08	0.09
1200	0.035	0.14	0.18	0.10	0.16	0.11	0.12
1400	0.045	—	—	0.13	0.23	0.14	0.15
1600	0.055	—	—	—	—	0.17	0.18
1800	0.062	—	—	—	—	0.20	0.22
2000	0.07	—	—	—	—	0.24	0.27

NOTE: A 26-in. clearance must be allowed for removal of media assembly from air cleaner cabinet.

3. Install supplied foam tape on side of air cleaner casing that comes in contact with furnace.

Manufacturer reserves the right to discontinue, or change at any time, specifications or designs without notice and without incurring obligations.



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Table 2—Dimensions

MODEL	A	B	C
MACAXCCCX012	18-1/8	13-3/4	5-1/4
MACAXCCCX014	18-1/8	13-3/4	7-1/4
MACAXCCCX020	22-1/8	17-3/4	7-1/4

Fig. 2—Dimensional Drawing

- Using standard practices, remove a section of return-air duct to allow installation of air cleaner cabinet.
- Install air cleaner in duct opening. (Use a transition if openings are different).
- Mounting holes are provided for duct work attachment. (See Fig. 2). If adjoining duct work is flanged, install screws so that their heads are inside cabinet to prevent damage to filter during removal and installation.
- Remove media filter from plastic bag and place media filter in cabinet. Directional arrows on filter cartridge must point in direction of air flow.

NOTE: Pleat spacers may have shifted out of position during shipment. Push down if necessary. (See Fig. 1)

- After unit has been secured, seal seams air tight with duct tape or caulking.
- Reinstall cabinet front panel door assembly.

NOTE: The air cleaner is set up for left to right air flow, when facing the access door. For right to left air flow, remove filter cartridge, turn it around and replace in cabinet. Directional arrows on filter cartridge must point in direction of air flow. (See Fig. 3 for typical installations.)

Step 2—Maintenance

The filter in your mechanical air cleaner must be replaced periodically. The frequency of filter replacement is best determined by visual examination.

Periodic inspection and annual replacement of your filter will insure high efficiency air cleaning, refer to TABLE 3 for replacement filter part numbers.

Step 3—Replacing Filter

Table 3—Replacement Filter

REPLACEMENT FILTERS ORDER NUMBER	KEAFL0106012	KEAFL0203014	KEAF0303020
NUMBER OF FILTERS PER CARTON	6	3	3

- Turn off power to furnace or air handler before removing door.
- Open access door by pulling handle. Remove door completely.
- Pull used filter straight out of cabinet.
- Slide new filter cartridge into cabinet with "AIR-FLOW" arrow pointing in direction of air flow.

NOTE: Pleat spacers may have shifted out of position during shipment. Push down if necessary. (See Fig. 1)

- Replace door.
- Turn power on.

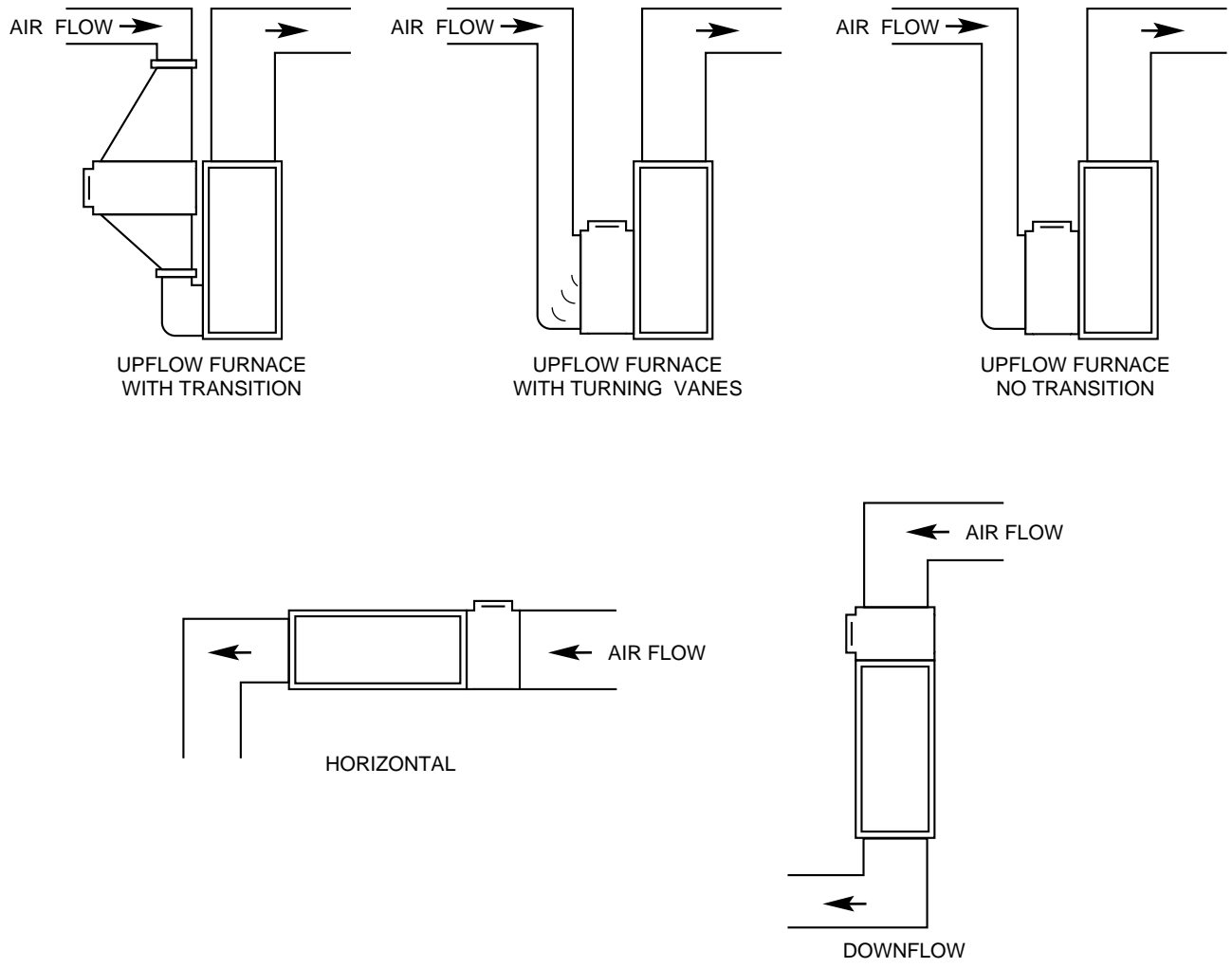


Fig. 3—Typical Installations

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SERVICE TRAINING

Packaged Service Training programs are an excellent way to increase your knowledge of the equipment discussed in this manual, including:

- Unit Familiarization
- Maintenance
- Installation Overview
- Operating Sequence

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